



GENERAL NOTES:

- UNLESS NOTED OTHERWISE IN THE CO CONTROL INSTILLATION GUIDELINES, CARBON MONOXIDE SENSORS SHALL BE INSTALLED AT 5'-0" A.F.F.
- IN FINISHED AREAS, EXCEPT AS OTHERWISE INDICATED, INSTALLER SHALL CONCEAL WIRING CONDUIT AND PIPES WITHIN THE CONSTRUCTION. COORDINATE LOCATIONS OF PANELS, DAMPERS AND SENSORS WITH FINISH ELEMENTS. MAKE ALL EFFORT TO LOCATE CONTROL J-BOXES, ETC. WITH ARCHITECT AND OTHER TRADES PRIOR TO FABRICATION AND INSTALLATION.
- THIS DIAGRAM IS BASED ON HONEYWELL E*POINT GAS DETECTION SYSTEM. REFER TO SPECIFICATION BOOK FOR OTHER MANUFACTURER'S AS APPROVED EQUAL.
- BY MECHANICAL INSTALLER
 BY ELECTRICAL INSTALLER.

WIRING SPECIFICATION:
UNLESS NOTED OTHERWISE BY CONTROL MANUFACTURER
Communication Wire Gauge: 24-2 AWG (Belden 9841)
Twisted and shielded cable 2000 feet per channel.
Power Conductor Gauge: Min. 14-2 AWG Insulated Wire.

A. GENERAL SCOPE:

CARBON MONOXIDE CONTROL PANEL (CO DETECTORS)

- GARAGE EXHAUST SYSTEM CONTROLLED BY CARBON MONOXIDE SYSTEM DESIGNED FOR FLOOR BY FLOOR BASES. IN COMPLIANCE WITH THE CALIFORNIA MECHANICAL CODE SECTION 403.8.3.2, UTILIZING AUTOMATIC CARBON MONOXIDE (CO) SENSING DEVICES. TO START AND MODULATE GARAGE VENTILATION SYSTEM BETWEEN 50 PART PER MILLION DURING ANY 8 HOUR PERIOD, WITH A MAXIMUM CONCENTRATION NOT GREATER THAN 200 PART PER MILLION FOR A PERIOD NOT EXCEEDING 1 HOUR. CO SENSING AND CONTROL DEVICE SHALL COMPLY WITH SECTION 302.1.
- PROVIDE & INSTALL ELECTRONICS CARBON MONOXIDE DETECTOR UNIT AS INDICATED IN THE PROJECT SPECIFICATION. ALL CONTROLS COMPONENTS AND WIRING SHALL BE UL LISTED (NO. 2034) AND MEETS LOCAL ORDINANCE AND OSHA STANDARD FOR CO EXPOSURE.
- PROVIDE & INSTALL ADDITIONAL TIME RELAY TO EXTEND RUN TIME OF THE FAN ± 5 MINUTES BEFORE SHUT-DOWN.

B. SEQUENCE OF OPERATION:

P-4 LEVEL

- EXHAUST FANS (GEF/4-1 & 4-2) AND MAKE UP AIR FANS (GMF/4-1 & 4-2) ARE OPERATED WITH VFD AND CONTROLLED WITH CARBON MONOXIDE PANEL(S) SERVING P-4 GARAGE AREA.
- WHEN A CARBON MONOXIDE SENSOR IN THE P-4 LEVEL DETECTS OVER 25 ppm OF CARBON MONOXIDE CONCENTRATION, EXHAUST FANS (GEF/4-1 & 4-2) AND MAKE UP AIR FANS (GMF/4-1 & 4-2) WILL RUN AT LOW SPEED (25% TO 30% ADJUSTABLE BY VFD DRIVE).
- WHEN A CARBON MONOXIDE SENSOR IN THE P-4 LEVEL DETECTS OVER 100 ppm OF CARBON MONOXIDE CONCENTRATION, EXHAUST FANS (GEF/4-1 & 4-2) AND MAKE UP AIR FANS (GMF/4-1 & 4-2) WILL RUN AT MEDIUM SPEED (30% TO 50% ADJUSTABLE BY VFD DRIVE).
- IN EXCESS OF 200 ppm OF CARBON MONOXIDE, ALL FANS SERVING P-4 LEVEL WILL RUN IN MAXIMUM OPERATING SPEED AND A REMOTE ALARM SIGNAL WILL BE ACTIVATED AFTER 15 MINUTES.

P-3 LEVEL

- EXHAUST FANS (GEF/3-1 & 3-2) AND MAKE UP AIR FANS (GMF/3-1 & 3-2) ARE OPERATED WITH VFD AND CONTROLLED WITH CARBON MONOXIDE PANEL(S) SERVING P-3 GARAGE AREA.
- WHEN A CARBON MONOXIDE SENSOR IN THE P-3 LEVEL DETECTS OVER 25 ppm OF CARBON MONOXIDE CONCENTRATION, EXHAUST FANS (GEF/3-1 & 3-2) AND MAKE UP AIR FANS (GMF/3-1 & 3-2) WILL RUN AT LOW SPEED (25% TO 30% ADJUSTABLE BY VFD DRIVE).
- WHEN A CARBON MONOXIDE SENSOR IN THE P-3 LEVEL DETECTS OVER 100 ppm OF CARBON MONOXIDE CONCENTRATION, EXHAUST FANS (GEF/3-1 & 3-2) AND MAKE UP AIR FANS (GMF/3-1 & 3-2) WILL RUN AT MEDIUM SPEED (30% TO 50% ADJUSTABLE BY VFD DRIVE).
- IN EXCESS OF 200 ppm OF CARBON MONOXIDE, ALL FANS SERVING P-3 LEVEL WILL RUN IN MAXIMUM OPERATING SPEED AND A REMOTE ALARM SIGNAL WILL BE ACTIVATED AFTER 15 MINUTES.

P-2 LEVEL

- EXHAUST FANS (GEF/2-1 & 2-2) AND MAKE UP AIR FANS (GMF/2-1 & 2-2) ARE OPERATED WITH VFD AND CONTROLLED WITH CARBON MONOXIDE PANEL(S) SERVING P-2 GARAGE AREA.
- WHEN A CARBON MONOXIDE SENSOR IN THE P-2 LEVEL DETECTS OVER 25 ppm OF CARBON MONOXIDE CONCENTRATION, EXHAUST FANS (GEF/2-1 & 2-2) AND MAKE UP AIR FANS (GMF/2-1 & 2-2) WILL RUN AT LOW SPEED (25% TO 30% ADJUSTABLE BY VFD DRIVE).
- WHEN A CARBON MONOXIDE SENSOR IN THE P-2 LEVEL DETECTS OVER 100 ppm OF CARBON MONOXIDE CONCENTRATION, EXHAUST FANS (GEF/2-1 & 2-2) AND MAKE UP AIR FANS (GMF/2-1 & 2-2) WILL RUN AT MEDIUM SPEED (30% TO 50% ADJUSTABLE BY VFD DRIVE).
- IN EXCESS OF 200 ppm OF CARBON MONOXIDE, ALL FANS SERVING P-2 LEVEL WILL RUN IN MAXIMUM OPERATING SPEED AND A REMOTE ALARM SIGNAL WILL BE ACTIVATED AFTER 15 MINUTES.

P-1 LEVEL

- EXHAUST FAN (GEF/1-1) AND MAKE UP AIR FAN (GMF/1-1) ARE OPERATED WITH VFD AND CONTROLLED WITH CARBON MONOXIDE PANEL(S) SERVING P-1 GARAGE AREA.
- WHEN A CARBON MONOXIDE SENSOR IN THE P-1 LEVEL DETECTS OVER 25 ppm OF CARBON MONOXIDE CONCENTRATION, EXHAUST FAN (GEF/1-1) AND MAKE UP AIR FAN (GMF/1-1) WILL RUN AT LOW SPEED (25% TO 30% ADJUSTABLE BY VFD DRIVE).
- WHEN A CARBON MONOXIDE SENSOR IN THE P-1 LEVEL DETECTS OVER 100 ppm OF CARBON MONOXIDE CONCENTRATION, EXHAUST FAN (GEF/1-1) AND MAKE UP AIR FAN (GMF/1-1) WILL RUN AT MEDIUM SPEED (30% TO 50% ADJUSTABLE BY VFD DRIVE).
- IN EXCESS OF 200 ppm OF CARBON MONOXIDE, ALL FANS SERVING P-1 LEVEL WILL RUN IN MAXIMUM OPERATING SPEED AND A REMOTE ALARM SIGNAL WILL BE ACTIVATED AFTER 15 MINUTES.
- PORTION OF THE MAKE-UP AIR WILL BE PROVIDED THRU RAMP ENTERING TO THE GARAGE.